

# Well Engineering 1

SINGAPORE

25-27 JUNE 2014

For Graduate Well Engineers & other disciplines such as service company personnel  
to gain fundamental knowledge of well planning and drilling processes

## INSTRUCTOR:

**Herve Vigor**

**Operations Manager**

~ 18 years of O&G operator and service company experience

~ Former Drilling and Completions Manager with major E&P operators

~ Masters of Petroleum Engineering

## COMPANY PROFILE

Independent, innovative consultants to the global energy industry, with diverse oil & gas engineering experience in the area of drilling, complex well design and petroleum engineering consulting and training. We are strategically located in Singapore and Perth, Australia.

In keeping with our client-focused approach to technical problems, Stuart Wright can offer any number or combination of well engineering services tailored to our customer's specific needs. From well integrity management, HPHT wells, root cause investigation, failure analysis, well modelling. We have the experience, expertise and methods to guarantee success.

REGISTER BY 13 JUNE 2014

## Multiple bookings discount:

~3 or more at 5% off

~5 or more at 7% off

~8 or more at 10% off

## Course Overview

This course provides an overview of the process to drill and complete a well. This basic well engineering course is aimed to introduce the fundamental notions on geology and reservoir before starting the well design. Therefore the attendees will be given an understanding of the inter-linkages between the design subjects, and how each decision affects those that follow.

Course objective:

- ~ History of Oil and Gas
- ~ Basic concepts of Geology and Geophysics
- ~ Equipment used during well construction on different types of drilling rigs.
- ~ Purpose of drilling fluids
- ~ Purpose of casings and design as per requirement
- ~ Purpose of cementing
- ~ Differentiate the compositions of the drillstring
- ~ Importance of wellbore stability
- ~ Concept of directional drilling
- ~ Concept of logging
- ~ Purpose of completion and various types of completion

## Who Should Attend?

- ~ Graduate Drilling/ Well Engineers
- ~ Well Planners
- ~ Drilling Supervisors
- ~ Project Engineers
- ~ Service Providers
- ~ Sub-surface Team
- ~ Oil & Gas Industry Professionals

## For bookings/enquiries/cost, contact:

Pearlyn Long, Finance & Contracts Manager

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Herve Vigor, Operations Manager

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## Course Schedule

### DAY 1: INTRODUCTION

- ~ Well planning
- ~ Petroleum geology
- ~ Basics of reservoirs
- ~ Rock and fluids properties
- ~ Subsurface hazards

### DAY 2: CASING DESIGN AND CEMENTING

- ~ Casing design basics
- ~ Cementing
- ~ Drilling fluids

### DAY 3: DRILLING BASICS AND OPERATIONS

- ~ Drilling process
- ~ Rig types
- ~ Drill string basics
- ~ Wellbore behaviour
- ~ Directional drilling
- ~ Formation evaluation
- ~ Completions



During the course, attendees will participate in workshops and round table discussions, using real examples, to maximize learning outcomes.

# Well Engineering 2

SINGAPORE

25-29 AUGUST 2014

**A comprehensive and concentrated course for Well Planning & Operations Engineers in applied well engineering theory and practice, based on decades of experience across offshore, onshore and multiple complex well projects**

## INSTRUCTORS:

### Colin Stuart

Managing & Technical Director

- ~ 34 years of wells experience
- ~ Fellow of Institute of Mechanical Engineers
- ~ Specialist in well control, well integrity risk assessment and management, complex well design and HPHT support and training.

### Herve Vigor

Operations Manager

- ~ 18 years of O&G operator and service company experience
- ~ Former Drilling and Completions Manager with major E&P operators
- ~ Masters of Petroleum Engineering

## COMPANY PROFILE

Independent, innovative consultants to the global energy industry, with diverse oil & gas engineering experience in the area of drilling, complex well design and petroleum engineering consulting and training. We are strategically located in Singapore and Perth, Australia.

In keeping with our client-focused approach to technical problems, Stuart Wright can offer any number or combination of well engineering services tailored to our customer's specific needs. From well integrity management, HPHT wells, root cause investigation, failure analysis, well modelling. We have the experience, expertise and methods to guarantee success.

REGISTER BY 30 JUNE 2014

## Multiple bookings discount:

- ~ 3 or more at 5% off
- ~ 5 or more at 7% off
- ~ 8 or more at 10% off

## Course Overview

### Skills acquired:

- ~ Well planning principles and method
- ~ Subsurface hazard assessment
- ~ Offset well review method
- ~ Preparing a well cost estimate
- ~ Planning well trajectories
- ~ Trajectory modeling
- ~ Fluid selection basics
- ~ Cementing design and cement job planning
- ~ Drill string hydraulics
- ~ Completion design basics
- ~ Well cost estimating
- ~ Risk assessment methods

### Who Should Attend?

- ~ Operations well engineers
- ~ Well design engineers
- ~ Service personnel involved in operations

### For bookings/enquiries/cost, contact:

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## Course Schedule

### DAY 1: WELL PLANNING

- ~ Well planning process
- ~ Subsurface prognosis
- ~ Subsurface hazards and risk assessments
- ~ Offset well reviews
- ~ Well budgeting and AFE process
- ~ Rig selection

### DAY 2: WELL DESIGN

- ~ Trajectory design
- ~ Trajectory modelling exercises
- ~ Casing design theory
- ~ Casing design modelling
- ~ Casing modelling exercises

### DAY 3: FLUIDS AND CEMENTING

- ~ Mud type and selection
- ~ Borehole stability
- ~ ERD techniques
- ~ Stuck pipe avoidance
- ~ Cementing theory
- ~ Cement job design

### DAY 4: DRILL STRING AND HYDRAULICS

- ~ Drill string design
- ~ Hydraulics theory
- ~ Hydraulics, torque and drag models
- ~ Hydraulic model exercises
- ~ Torque and drag exercises

### DAY 5: WELL COMPLETIONS

- ~ Completions design and selection
- ~ Wellbore perforating
- ~ Well testing
- ~ Well handover
- ~ Well intervention planning

To maximise learning outcomes, in this concentrated course, attendees will participate in case study exercises using industry standard software, and do homework assignments.

# Advanced Well Integrity Management

SINGAPORE

23 - 25 SEPTEMBER 2014



**Well Integrity is 'the application of technical, operational and organizational solutions to Reduce risk of uncontrolled release of formation fluids throughout the life cycle of a well' (NORSOK D-010).**

## INSTRUCTOR:

### Colin Stuart

Managing & Technical Director

- ~ 34 years of experience
- ~ Fellow of Institute of Mechanical Engineers
- ~ Specialist in well control support, risk management, integrity management and complex well design including HPHT
- ~ NOPSEMA Expert Witness for the Montara Blowout Investigation

## COURSE TESTIMONIALS:

*"This course reignited my passion for engineering"*  
Santos Drilling Engineer

*"The best instructor I have seen in my career"*

Production Supervisor – TOF Urumqi 2012

*"The best course I have been on – I want MORE!! The course has given me a new enthusiasm/passion to expand my knowledge in this area"*  
Well Integrity Engineer

## RELEVANT COMPANY

### EXPERIENCE:

- ~ Provision of well integrity expertise to operators and regulators (including NOPSEMA and NZ regulator)
- ~ Failure investigation and analysis, including blowouts
- ~ Developers of barrier integrity management solutions
- ~ Well construction and completion design
- ~ HPHT services

REGISTER BY 10 SEPT 2014

## Multiple bookings discount:

- ~ 3 or more at 5% off
- ~ 5 or more at 7% off
- ~ 8 or more at 10% off

## Course Overview

**Well integrity** is of the utmost importance for personnel safety, environmental protection and risk management. As such there is an ever increasing need for raising awareness and managing risks for oil and gas operators and government bodies. This applies both to well construction and production operations.

Skill sets acquired:

- ~ Understand how different stages of well operations, from design and construction to production, impact well integrity
- ~ Learn to manage production well integrity to maximise well productivity and minimise asset risk
- ~ Be able to identify and quantify the risks associated with different types of well integrity issues
- ~ Learn different techniques to reduce / mitigate risks
- ~ Be able to define procedures, roles and responsibilities of personnel involved in the well lifecycle
- ~ Understand well integrity management systems
- ~ Communicate effectively and efficiently with your organization on well integrity issues

## Who Should Attend?

- ~ Technical Directors
- ~ Asset Managers
- ~ Petroleum Engineers
- ~ Well Integrity Engineers
- ~ Production Technologists
- ~ Production Personnel (OIMs, Production Operators, Maintenance Supervisors)
- ~ Drilling and Well Servicing Personnel (Drilling Managers, Well Engineers, Completion and Well Service Engineers, Drilling Supervisors, Rig Managers, Toolpushers, Drillers)
- ~ Regulators
- ~ Service Companies

## For bookings/enquiries/cost, contact:

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## Course Schedule

### DAY 1: Learn the definitions, principles, techniques and processes of Well Integrity Management

#### Lecture Series

- ~ Introduction and WI risk perspectives
- ~ Well barriers integrity during operations
- ~ WI for casing and cement
- ~ WI for completion string

#### Activity Series

- ~ Well design impact on WI
- ~ Barriers minimum acceptance criteria

### DAY 2: Understand importance of well barriers and their corresponding threats. Understand available WI standards and best practices.

#### Lecture Series

- ~ Well barrier threats and preventive measures
  - ~ Casing, tubing, cementing failure and consequences
  - ~ Casing/tubing selection using corrosion standards
  - ~ Understand cement hydration for competent cement barriers
- ~ Industry available standards for WI management (ISO 16530-2 and API RP 90)
- ~ WI for completion component
- ~ WI for wellhead component

#### Activity Series

- ~ Understand WI in terms of operator and regulator perspectives
- ~ Procedures of annulus pressure management

### DAY 3: Understand the management of WI during production and abandonment plus the key elements of an effective well integrity management system.

#### Lecture Series

- ~ WI in Production and Abandonment
  - ~ Understand causes of sustained casing pressure
  - ~ Understand effect of annular fluid expansion
  - ~ Understand standards, guidelines and best practices for suspension and abandonment
- ~ Purpose and elements of well integrity management systems
- ~ Importance of quality handover of well operations to different departments

#### Activity Series

- ~ Well abandonment

During the course, attendees will participate in Exercises and knowledge sharing, using real examples, to maximize learning outcomes.

### Intensive Risk Management and Rig Training Manage HPHT Conditions Optimally Through Thorough Understanding and Effective Practices

#### INSTRUCTORS:

##### Colin Stuart

Managing & Technical Director

- ~ 34 years of experience
- ~ Fellow of Institute of Mechanical Engineers
- ~ Specialist in well control, well integrity risk assessment and management, complex well design and HPHT support and training.

##### Herve Vigor

Operations Manager

- ~ 18 years of O&G operator and service company experience
- ~ Former Drilling and Completions Manager with major E&P operators
- ~ Masters of Petroleum Engineering

#### RELEVANT COMPANY EXPERIENCE:

- ~ Vast experience in bottom hole pressure management and narrow margin of HPHT wells in Australia and South East Asia region to major operators
- ~ Well control engineering capability with actual kick management assistance.
- ~ Blowout accident investigation capability with role of expert witness for several regulators in Australasia region.
- ~ Well construction and complex design.

#### REGISTER BY 6 AUGUST 2014

#### Multiple bookings discount:

- ~ 3 or more at 5% off
- ~ 5 or more at 7% off
- ~ 8 or more at 10% off

### Course Overview

#### Skill sets acquired:

- ~ Planning process for HPHT
- ~ Well design and operations challenges
- ~ Risk Mitigation techniques
- ~ Specialist materials & Services
- ~ HPHT well control issues and operations
- ~ HPHT guidelines & procedures ( JOM )
- ~ The importance of proper rig selection
- ~ Tubular and connection selection criteria
- ~ Drilling and completion fluids selection
- ~ Gas behavior
- ~ Borehole management

Multiple case scenarios are studied to promote participation through previous real life examples highlighting the complex nature of HPHT wells.

#### Who Should Attend?

- ~ Well Planning engineers
- ~ Operations engineers
- ~ Drilling Supervisors
- ~ Operations geologists
- ~ Service company HPHT managers
- ~ HPHT Well Integrity Engineers

#### For bookings/enquiries/cost, contact:

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### Course Schedule

#### DAY 1: HPHT WELL DESIGN

- ~ HPHT Unique Risks
- ~ Fluid Design
- ~ Casing Design & Contingencies
- ~ Cement Design
- ~ Rig selection & equipment specifics

#### DAY 2: HPHT WELL CONSTRUCTION

- ~ Well Planning process
- ~ Managing Wellbore Behaviour
- ~ Bottom Hole Pressure Management
- ~ Well Control strategies
- ~ Case Histories

#### DAY 3: HPHT WELL LIFE CYCLE STRATEGIES

- ~ Joint Operations Manual
- ~ Wellbore evaluation
- ~ Managing thermal induced pressures
- ~ Diagnostics and interventions
- ~ Well Integrity Management



#### COURSE TESTIMONIALS:

*"Great course! I now know what I don't know in planning and drilling an HPHT well!"*

*"A very interesting and insightful course. I'll strongly recommend a continuation of this course for future training calendars!"*

During the course, attendees will participate in workshops and round table discussions, using real examples, to maximize learning outcomes.